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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,326	12/31/2003	Koichi Morita	P05934US01/BAS	8123

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EXAMINER	
PARKER, FREDERICK JOHN	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,326	MORITA ET AL.	
	Examiner	Art Unit	
	Frederick J. Parker	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 8-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-17-06 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The range of 7.8-34% toluene insoluble matter is deemed to be New Matter because (1) the range is never cited in the specification, Applicants instead relying on two points cited in the Examples to act as end points of an otherwise undisclosed range, which is insufficient to establish possession of the claimed range at the time the invention was made, (2) the values in the examples are exclusively for pitch and not tar; and (3) the specification fails to disclose that <u>any</u> toluene insoluble range is part of the invention as required by MPEP 2163.05 III, see section on Perdue Pharma v. Faulding.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1,10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 is vague and indefinite because the range 7.8-34 is undefined as to type of %, e.g. by volume, by weight, molar, etc. It is further vague and indefinite because the "separating" step is ambiguous and confusing, as written it implies that the core is removed from the carbon coating; for examination, it will be interpreted to mean the coated carbon core is removed from the coat forming material into which it was dipped/immersed; clarification of the step is required. The claim is further vague and indefinite because it separates tar and pitch as separate entities whereas the specification teaches them as one, e.g. "coal tar pitch", see examples 12 and 24, etc.; for examination, either or the combination will be considered to meet the limitation.
- Claim 10 is vague and indefinite because the basis of the QI content % is not cited, e.g. by wt, vol., etc.

6. Previous prior art rejections are withdrawn in view of amendments and replaced by those below.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-4,8,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyabayashi et al US 5401598 in view of Ishikawa US 3628984 and further in view of Hayashi US 5906900.

Miyabayashi et teaches making a battery electrode material comprising a multphasic coat-forming carbon (S) on a graphite nucleus (N). The core graphite (N) has a wide angle XRD d002 of less than 3.45A, preferably 3.36-3.42A. The coat forming material (S) is deposited on the core by immersion in a solvent containing an organic material such as pitch, after which the coated core is thermally treated/ calcined, the latter requiring removal of the coated core from the

solvent containing the organic material. While washing and drying are not cited, it is the Examiner's position that such steps are inevitably obvious to one skilled in the art to remove excess organic and optimize coverage of the material (S) in the pore structure of the core (N). Nonetheless the Examiner introduces Ishikawa which sets forth a similar immersion process of making carbonaceous products in which rinsing and drying prior to thermal treatment/ calcination are disclosed in the figure and col. 4, 10-15. Further, while "adding toluene" to the core to be washed, dried and calcined is not cited, Hayashi et al teaches on col. 5, 9-29 in a similar process that use of an aromatic solvent such as toluene improves impregnation and wetting of the carbonaceous material to the surface area of the core.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Miyabayashi by carrying out rinsing/ drying as taught by Ishikawa and the toluene additions of Hayashi to provide the obvious benefits of optimizing the carbonaceous material (S) applied to the core material (N) during the coating process.

The references do not state a range of toluene insoluble matter of claim 1; however, the core and coating materials of the prior art as well as the process renders the instant claimed process obvious, and therefore the pitch would have been expected to have a corresponding value of toluene insoluble matter. When a reference discloses the limitations of a claim except for a property, and the Examiner cannot determine if the reference inherently possesses that property (in this case, toluene insoluble matter), the burden is shifted to Applicant/s, In re Fitzgerald 205 USPQ 594 and MPEP 2112.

Per claim 4, Ishikawa teaches that immersion to form similar products as Miyabayashi can be done under reduced pressure, col. 3, 60-63.

Per claim 8, the ratio of solid mater: organic solvent would have been within the purview of one skilled in the art as amount of solvent wash directly affects degree of cleaning/ surface effects. The discovery of optimal result-effective variables in a known process is ordinarily within the skill in the art. In re Boesch 205 USPQ 215.

Similarly, per claim 9, the cited ratio is merely an obvious process variable for a desired outcome would also have encompassed that ratio of the prior art. When a reference discloses the limitations of a claim except for a property, and the Examiner cannot determine if the reference inherently possesses that property (in this case, (S)/(S=N)), the burden is shifted to Applicant/s, In re Fitzgerald 205 USPQ 594 and MPEP 2112.

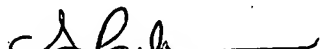
11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyabayashi et al US 5401598 in view of Ishikawa US 3628984 and further in view of Hayashi US 5906900 and Chu et al US 4664774.

Miyabayashi et al, Ishikawa, and Hiyasaki are cited for the same reasons previously discussed, which are incorporated herein. QI content is not taught. However, Chu teaches that the current industry standard for impregnation pitch for forming electrodes is QI< 0.5 wt% which provides the benefits of increased yield and density as well as greater penetration rate. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Miyabayashi in view of Ishikawa and Hayashi to employ carbonaceous impregnating pitches with a QI < 0.5 wt % to provide the express benefits of increased yield, density and greater penetration rate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Frederick J. Parker
Primary Examiner
Art Unit 1762

fjp